

# **APPENDIX**

for Examiner's Answer to Appeal Brief of  
US Patent Application *10/041,075*

## ***Contents:***

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## Definiton for "Ceramic"

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*Condensed Chemical*  
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EIGHTH EDITION

*Revised by*

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*Formerly Executive Editor, Reinhold Publishing Corporation*  
*Coeditor, Encyclopedia of Chemistry*



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15 14 13 12 11 10 9 8 7 6

1 a sulfur-containing compound thus activated is placed in an of monomers. Polymerization peroxide catalyst to form the polymer.

k for a series of functional (rs) combining fire-resistance ies. Available in controlled l hydraulic and lubricant ap-

ark for tributyl phosphate. rile elastomers; foam depress- ems; solvent, extractant and norganics.

rk for a series of synthetic methylolpropane esters. ire lubricant for aircraft gas ing at a bulk fluid tempera-

for aircraft gas turbine en- fluid temperature of 300° F. k for a series of blowing

benzenesulfonylhydrazide). yl semicarbazide.

k for macerated canvas or laminated or molded plastics. vn or black; sp. gr. 1.35; high ected by rapid temperature heat, oil, water, and many d continuously at 225-250° F.

eces; blanks; rings; molded

automobile industry; electri- il parts.

c for structural building and ced in large sheets. Made wood fiber and treated to be ites, and water penetration. s roofing products, gypsum, rs, mineral wool, and hard

lumina cement). A hydraulic at least 30 to 35% alumina l cement, which contains less is usually supplied by inclu- ous cement attains its maxi- pidly than Portland cement. it to solutions of sulfates. It ons, sintered and fused.

n which steel or iron objects r metal by immersing them ond metal and heating to a melting point of any of the , chromium, aluminum, and ron or steel in this fashion.

rbide, cemented.

mixture of fine-ground lime, will set to a hard product by which combines chemically ents to form a hydrate. See and cement, Portland.

**cementite**  $\text{Fe}_3\text{C}$ . A carbide of iron formed in the manufacture of pig iron and steel. Composed of 93.33% iron and 6.67% carbon, it is very hard and brittle and will scratch glass and feldspar, but not quartz. It is about two-thirds as magnetic as pure iron under an exciting current. It occurs in ordinary steels of more than 0.85% carbon and takes its name from cement steel, made by the cementation process, which contains a great deal of this carbide. See also carbide.

**cement, Portland.** A type of hydraulic cement in the form of finely divided gray powder composed of lime, alumina, silica and iron oxide as tetracalcium aluminoferrate ( $4\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{Fe}_2\text{O}_3$ ), tricalcium aluminate ( $3\text{CaO} \cdot \text{Al}_2\text{O}_3$ ), tricalcium silicate ( $3\text{CaO} \cdot \text{SiO}_2$ ), and dicalcium silicate ( $2\text{CaO} \cdot \text{SiO}_2$ ). These are abbreviated respectively as  $\text{C}_4\text{AF}$ ,  $\text{C}_3\text{A}$ ,  $\text{C}_3\text{S}$  and  $\text{C}_2\text{S}$ . Small amounts of magnesia, sodium, potassium, and sulfur are also present. Hardening does not require air, and will occur under water. Sand is often added as a diluent. Cement may be modified with various plastic latices in proportions up to 0.2 part latex solids to 1 part cement to improve adhesion, strength, flexibility, and curing properties. Water evaporation can be retarded by adding such resins as methylcellulose and hydroxyethyl cellulose.

For further information refer to the Portland Cement Association, Chicago, Illinois.

**cement, organic.** Any of various types of rubber cement, silicone adhesives, deKhotinsky cement. See adhesive, rubber-based; silicones; deKhotinsky cement.

**"CE Methyl Esters."**<sup>1487</sup> Trademark for a series of methyl esters of straight chain (normal) even numbered fatty acids ranging from  $\text{C}_8$  (octanoate) to  $\text{C}_{18}$  (octadecanoate) and including mixtures of these. "TE-1618 Methyl Ester" is a blend based on  $\text{C}_{14}$  to  $\text{C}_{18}$  normal acids. Combustible.

Properties: Colorless to light yellow liquids or white solids. Sp. gr. about 0.87.

Containers: Up to tank cars and trucks.

Uses: Chemical intermediates; lubricants; cosmetic ingredients; formulating aids (rubber, wax, etc.).

**"Centifoliot."**<sup>1188</sup> Trademark for a replacement for otto of rose and rose absolute.

Uses: Perfume and cosmetic compositions.

**centigrade.** The internationally used scale for measuring temperature, in which 100° is the boiling point of water at sea level (1 atmosphere), and 0° is the freezing point. A temperature given in centigrade degrees may be converted to the corresponding Fahrenheit temperature by multiplying it by 9/5 (or 1.8), and adding 32 to the product. A temperature given in Fahrenheit degrees is converted to the corresponding centigrade temperature by subtracting 32, and multiplying the remainder by 5/9. This scale is also called Celsius. See also absolute temperature.

**centigrade heat unit.** See chu.

**centipoise (cp).** One one-hundredth of a poise. The poise is the metric system unit of viscosity, and has the dimensions of dyne-second per square centimeter or grams per centimeter-second.

**centistoke (cs).** One one-hundredth of a stoke, the kinematic unit of viscosity; it is equal to the viscosity in poises divided by the density of the fluid in grams per cubic centimeter, both measured at the same temperature.

**"Century."**<sup>1189</sup> Trademark for a series of stearic acids, oleic acids, special fatty acids and hydrogenated fatty acids.

Uses: Cosmetics, pharmaceuticals, textile finishes, wetting agents, carbon paper, cutting oils, plastics, esters, polishes, rubber compounding, soaps and lubricating greases.

**"Cenwax."**<sup>1189</sup> Trademark for a series of hydrogenated castor oil products. Used as lubricants, coatings for leather, paper and textiles, candles, crayons, sealing compounds, polishes and wax extenders.

**"A."** A hard amorphous solid with practically no taste or odor, containing over 85% of 12-hydroxystearic acid.

**"G."** Hard, high melting point wax-like solid; principally the glyceride of 12-hydroxystearic acid. Practically tasteless and odorless, white to light cream in the solid form and colorless to light straw when liquid.

**cephalin** (kephalin; phosphatidyl ethanolamine; phosphatidyl serine)

$\text{CH}_2\text{OR}, \text{CHOR}, \text{CH}_2\text{OP}(\text{O})(\text{OH})\text{OR}_3$ . A group of phospholipids in which two fatty acids ( $\text{R}_1$  and  $\text{R}_2$ ) form ester linkages with the two hydroxyl groups of glycerophosphoric acid (q.v.) and either ethanolamine or serine ( $\text{R}_3$ ) forms an ester linkage with the phosphate group. Cephalins are therefore either phosphatidyl ethanolamine or phosphatidyl serine. They are associated with lecithins found in brain tissue, nerve tissue, and egg yolk.

Properties: Yellowish, amorphous substance; characteristic odor and taste; insoluble in water and acetone; soluble in chloroform and ether; slightly soluble in alcohol.

Uses: Medicine; biochemical research.

**ceramic.** A product manufactured by the action of heat on earthy raw materials, in which the element silicon with its oxide and complex compounds known as silicates occupy a predominant position (American Ceramic Society). The chief major groups of the ceramics industry are as follows: (1) structural clay products (brick, tile, terra cotta, glazed architectural brick); (2) whitewares (dinnerware, chemical and electrical porcelain, sanitary ware, floor tile); (3) Glass products of all types; (4) porcelain enamels; (5) refractories (materials that withstand high temperatures); (6) Portland cement, lime, plaster and gypsum products; and (7) abrasive materials such as fused alumina, silicon carbide and related products; (8) Aluminum silicate fibers. A wide range of ceramics is now available as ultra-fine particles (10-150 microns); and ceramic foams are offered commercially. See also specific entries. For further information refer to the American Ceramic Society, 4055 North High St., Columbus, Ohio.

**ceramic, ferroelectric.** A unique type of polycrystalline ceramic having properties that make possible the production of reliable, high-density optical memories for computers that are more efficient than conventional types. Lead zirconate titanate (q.v.), heated and pressed into thin plates, is one of the

Superior numbers refer to Manufacturers of Trade Mark Products. For page number see Contents.

## Definiton for "Ceramic"

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ceramic

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 ce·ram·ic   **Pronunciation Key** (sə-*r*ăm'īk)

n.

1. Any of various hard, brittle, heat-resistant and corrosion-resistant materials made by shaping and then firing a nonmetallic mineral, such as clay, at a high temperature.
2.
  - a. An object, such as earthenware, porcelain, or tile, made of ceramic.
  - b. **ceramics** (*used with a sing. verb*) The art or technique of making objects of ceramic, especially from fired clay.

[From Greek *keramikos*, *of pottery*, from *keramos*, *potter's clay*. See *ker*-<sup>3</sup> in Indo-European Roots.]

 ce·ram'ic *adj.*
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ceramic

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\Ce\*ram"ic\, a. [Gr. ?, fr. ? earthenware. Cf. Keramic.] Of or pertaining to pottery; relating to the art of making earthenware; as, ceramic products; ceramic ornaments for ceilings.

[Free Trial - Merriam-Webster Unabridged.]

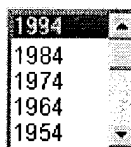
Source: *Webster's Revised Unabridged Dictionary*, © 1996, 1998 MICRA, Inc.

## ceramic

adj : of or relating to or made from a ceramic; "a ceramic dish" n : an artifact made of hard brittle material produced from nonmetallic minerals by firing at high temperatures

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## Definiton for "Glass"

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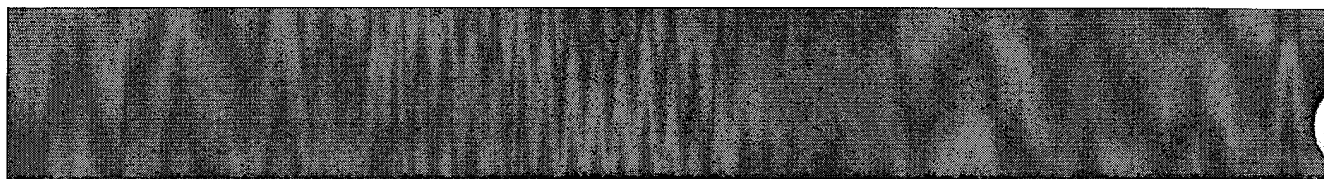


glass

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 glass **Pronunciation Key** (glắs)  
*n.*

1. Any of a large class of materials with highly variable mechanical and optical properties that solidify from the molten state without crystallization, are typically made by silicates fusing with boric oxide, aluminum oxide, or phosphorus pentoxide, are generally hard, brittle, and transparent or translucent, and are considered to be supercooled liquids rather than true solids.
2. Something usually made of glass, especially:
  - a. A drinking vessel.
  - b. A mirror.
  - c. A barometer.
  - d. A window or windowpane.
3.
  - a. **glasses** A pair of lenses mounted in a light frame, used to correct faulty vision or protect the eyes.
  - b. A binocular or field glass. Often used in the plural.
  - c. A device, such as a monocle or spyglass, containing a lens or lenses and used as an aid to vision.
4. The quantity contained by a drinking vessel; a

glassful.

5. Objects made of glass; glassware.

*adj.*

1. Made or consisting of glass.
2. Fitted with panes of glass; glazed.

*v.* **glassed, glass·ing, glass·es**

*v. tr.*

- a. To enclose or encase with glass.
- b. To put into a glass container.
- c. To provide with glass or glass parts.
2. To make glassy; glaze.
3.
  - a. To see reflected, as in a mirror.
  - b. To reflect.
4. To scan (a tract of land or forest, for example) with an optical instrument.

*v. intr.*

1. To become glassy.
2. To use an optical instrument, as in looking for game.

[Middle English *glas*, from Old English *glæs*. See *ghel*-<sup>2</sup> in Indo-European Roots.]

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**Glass**  **Pronunciation Key** (glās), **Philip**. Born 1937.

American composer whose minimalist style of music contains elements of both rock and Indian music. His works include the opera *Einstein on the Beach* (1975).

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